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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/757,856	01/11/2001	Dale C. Flanders	1028-CO	8212

25263 7590 11/29/2002

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EXAMINER

JEFFERY, JOHN A

ART UNIT PAPER NUMBER

3742

DATE MAILED: 11/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/757,856

Applicant(s)

FLANDERS ET AL.

Examiner

John A. Jeffery

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 14-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102 or 103(a)

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 1-5, 7-11, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Honmou (US5563969) or, in the alternative, under 35 U.S.C. 103(a) as being obvious over Honmou (US5563969). Honmou (US5563969) discloses a method and apparatus for fusing an optical fiber lens including injecting light into the fiber via laser 5, detecting the far-field image pattern via detector 6 mounted about 10 cm from the end surface of the fiber (col. 3, line 53), and using the recognized image as a control signal to control the discharge of electrodes for fiber electro-fusion using control system 2. See Fig. 3 and entire document. While the reference is silent as to the far-field

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pattern being a diffraction pattern, in view of (1) the detector's image recognition capability and ability to produce a picture signal (col. 3, lines 54-58), and (2) the nature and characteristics of the far-field pattern detected resulting from light exiting the fiber end, the detector 6 inherently detects the diffraction pattern. If such inherency is disputed, then the detection of a diffraction pattern from the far-field image detected by detector 6 would have been obvious to one of ordinary skill in the art in view of the nature and characteristics of the image of the far-field pattern detected resulting from light exiting the fiber end.

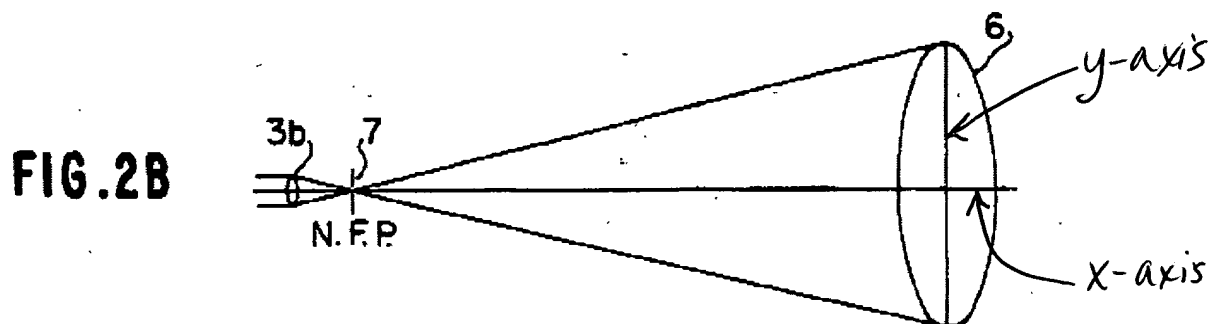
Claims 6, 12, 14, 15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honmou (US5563969) in view of Fanning (US47583886). The claims differ from the previously cited prior art in calling for the controller to activate the arc fuser in a pulsed fashion. Controlling an arc fuser in a fiber lens producing apparatus is conventional and well known in the art as evidenced by Fanning (US47583886) noting Col. 1, lines 12-15 wherein Fanning (US47583886) teaches that, in a lens-making process, the arc can be more closely controlled by repeatedly turning it on and off. In view of Fanning (US47583886), it would have been obvious to one of ordinary skill in the art to activate the arc fuser in a pulsed fashion in the previously described apparatus so that the arc can be more closely controlled by repeatedly turning it on and off. The claims also differ from the previously cited prior art in calling for the controller to determine a ratio of lateral size to a transverse size of the diffraction pattern. Honmou (US5563969) in Col. 3, line 54 - Col. 4, line 23 teaches using the far-

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field pattern diameter as the parameter to compare to a preset value for control purposes. In view of Honmou's use of a size parameter of the pattern for control purposes, no criticality is seen in the use of a ratio of sizes as claimed in claims 6 and 14. Selecting either the size value of the diameter of the pattern or a ratio of size values of the pattern is mere engineering design preference within the level of one of ordinary skill in the art. Furthermore, it is well settled that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233,235 (CCPA 1955). Here, the use of a ratio in lieu of a single diameter value would constitute the discovery of the optimum pattern size values for electro-fusion control purposes; such a discovery would be obtainable via routine experimentation.

Response to Arguments

Applicant's arguments filed have been considered but are not deemed to be persuasive. Applicant argues that Honmou does not disclose electro-fusing the fiber lens in response to a two-dimensional pattern, but that the reference only teaches a one-dimensional parameter--namely diameter. However, the pattern itself is two-dimensional as evidenced by the circular shape shown in Fig. 2B. Note both the horizontal and vertical axes of the pattern.



The examiner agrees that diameter, standing alone, is simply a one-dimensional measure of length. However, diameter is not merely considered in a vacuum with no regard to what the parameter ultimately represents. Instead, diameter directly represents the size and shape of a two-dimensional circular pattern. Thus, there is a direct correlation between the diameter and the size and shape of a two-dimensional distribution.

Moreover, Honmou is not controlling the discharge solely on the one-dimensional diameter parameter as Applicant seems to suggest. Rather, it is the shape of the detected pattern that is the predominant control parameter. In fact, Honmou expressly claims in Claims 1 and 10 of the '969 patent that the heating means is controlled "according to the shape of [the] detected far-field pattern." See Col. 5, lines 45-48 and Col. 6, lines 34-35. (Emphasis added.)

Applicant's argument regarding aspect ratio is noted but not deemed to be persuasive. According to the online version of Merriam Webster's Dictionary, at

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<http://www.search.eb.com/dictionary> (last visited Nov. 27, 2002), the definition of

“aspect ratio” is:

: a ratio of one dimension to another: as **a** : the ratio of span to mean chord of an airfoil **b** : the ratio of the width of a television or motion-picture image to its height (emphasis added).

However, as noted in the rejection, determining a ratio of sizes as contrasted with a single size value would merely discover optimum or workable parameters of shape, well within the scope of routine experimentation given the teachings of Honmou.

Moreover, it is well settled that even if “applicant’s modification results in great improvement and utility over the prior art, it may still not be patentable if the modification was within the capabilities of one skilled in the art, unless the claimed ranges ‘produce a new and unexpected result from which is different in kind and not merely in degree from the results of the prior art.’” *In re Huang*, 100 F.3d 135, 139 (Fed. Cir. 1996); 40 U.S.P.Q. 2d 1685 (*citations omitted*). Here, Applicant has not contended that unexpected results over Honmou have been achieved with the optimization of shape parameters. Thus, the examiner’s *prima facie* case of obviousness has not been rebutted.

More importantly, however, the aspect ratio is merely determinative of the shape of the pattern--and pattern shape is the key control parameter of Honmou. In his claim construction, Honmou specifically intended to not be limited to diameter as the control parameter. By (1) broadly reciting “shape” as the control parameter, and (2) deliberately excluding diameter from claims 1 and 10, it is reasonable to presume that

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Honmou intended to not be limited to diameter or only circular pattern shapes. Certainly, "shape" encompasses a wide variety of geometric representations including shapes with major and minor axes, such as ellipses. Nevertheless, for the sake of argument, even if Honmou only contemplates a circular pattern, even a circle possesses an aspect ratio of unity.

Conclusion

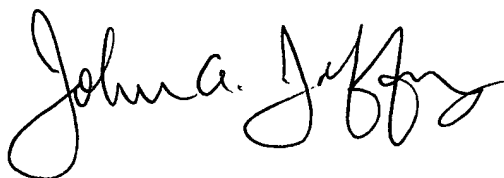
Any inquiry concerning this or earlier communications from the examiner should be directed to John A. Jeffery at telephone number (703) 306-4601 or fax (703) 305-3463. The examiner can normally be reached on Monday-Thursday from 7:00 AM to 4:30 PM EST. The examiner can also be reached on alternate Fridays.

The fax phone numbers for the organization where this application or proceeding is assigned are:

Before Final	(703) 872-9302
After Final	(703) 872-9303
Customer Service	(703) 872-9301

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Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (703) 308-0861.

A handwritten signature in black ink, appearing to read "John A. Jeffery". The signature is fluid and cursive, with the first name "John" being the most prominent part.

**JOHN A. JEFFERY
PRIMARY EXAMINER**

11/27/02